

Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A ~~device-transmitter for transmitting in a network comprising the transmitter and at least one receiver, wherein the transmitter is arranged to synchronise to a common time reference having distinguishable instances, the transmitter comprising:~~

~~means~~ a controller for reading a real time clock at an identified instance of a the common time reference having distinguishable instances, wherein the device is arranged to synchronise to the common time reference; and

~~means~~ a transmitter for transmitting, in a network comprising the device and at least one receiver, an identification of the real time clock value for a first instance and an identification of the first instance.

2. (Currently Amended) A ~~device-transmitter~~ as claimed in claim 1, wherein the controller is arranged to further comprising means for calculating calculate the real time clock value at the first instance by adding the time difference between the first instance and the identified instance to the real time clock value at the identified instance to obtain the real time clock value for the first instance.

3. (Currently Amended) A ~~device-transmitter~~ as claimed in claim 1, wherein the first instance is in the past at the moment of transmission.

4. (Currently Amended) A ~~device-transmitter~~ as claimed in claim 1, wherein the first instance is in the future at the moment of transmission.

5. (Currently Amended) A ~~device-transmitter~~ as claimed in claim 1, wherein the identified instance and the first instance are one and the same.

6. (Currently Amended) A device~~-transmitter~~ as claimed in claim 1, further comprising a synchronisation controller for maintaining the common time reference.
7. (Currently Amended) A device~~-transmitter~~ as claimed in claim 1, arranged to communicate in accordance with the Bluetooth Standard, wherein Link Level synchronization provides the common time reference.
8. (Currently Amended) A device~~-transmitter~~ as claimed in claim 1, arranged to communicate in accordance with the Bluetooth Standard, wherein the identification of the real time clock value and the identification of the first instance are transmitted as a Link Manager Message.
9. (Currently Amended) A device~~-transmitter~~ as claimed in claim 1, arranged to communicate in accordance with the Bluetooth Standard, wherein the instances of the common time reference are synchronous with the frequency hopping of the network.
10. (Currently Amended) A device~~-transmitter~~ as claimed in claim 1, wherein the first instance is identified by using a frame/slot number.
11. (Currently Amended) A device~~-transmitter~~ as claimed in claim 10, wherein the occurrence of the instance within the identified slot/frame is predetermined.
12. (Currently Amended) A device~~-transmitter~~ as claimed in claim 10, wherein occurrence of the instance within the identified slot/frame is determined by the transmission of a message.
13. (Currently Amended) A device~~-transmitter~~ as claimed in claim 1, further comprising an interface for connection to a Real Time Clock or Real Time application.

14. (Currently Amended) A device-transmitter as claimed in claim 1 arranged for asynchronous transmission of the identification of the real clock value and of the identification of the first instance.

15. (Currently Amended) A media device such as a speaker, microphone, screen, camera or computer comprising a device-transmitter as claimed in claim 1.

16. (Currently Amended) A device-receiver for receiving in a network comprising at least the receiver and a transmitter, wherein the receiver is arranged to synchronise to a common time reference having distinguishable instances, the receiver comprising:

means a receiver for receiving, in a network comprising at least the device and a transmitter, a transmitted identification of a real time clock value and an identification of a first instance of a common time reference having distinguishable instances, wherein the receiver is arranged to synchronise to the common time reference; and

means a controller for determining a real time clock value, current at a second instance from the received identification of a real time clock value and the received identification of a first instance.

17. (Currently Amended) A device-receiver as claimed in claim 16, wherein the real time clock value is the received value, if necessary, corrected in accordance with the time difference between the first and second instances.

18. (Currently Amended) A device-receiver as claimed in claim 16, wherein the first instance is in the past at the moment of reception.

19. (Currently Amended) A device-receiver as claimed in claim 16, wherein the real time clock value determination is by calculation in which the time difference between the second and first instances is added to the received value of the real time clock.

20. (Currently Amended) A device-receiver as claimed in claim 16, wherein the first instance is in the future at the moment of reception.

21. (Currently Amended) A device~~-receiver~~ as claimed in claim 16, wherein the controller~~-means for determining~~ determines that the current real time clock value is the received value when the second instance of the common time reference occurs, the second and first instances being one and the same.

22. (Currently Amended) A device~~-receiver~~ as claimed in claim 16, further comprising a synchronisation controller for maintaining the common time reference.

23. (Currently Amended) A device~~-receiver~~ as claimed in claim 22, wherein the synchronisation controller comprises correlation means for identifying access codes preceding the payload of data packets.

24. (Currently Amended) A device~~-receiver~~ as claimed in claim 23, wherein the synchronisation to the common time reference is updated as each packet is received.

25. (Currently Amended) A device~~-receiver~~ as claimed in claim 22, wherein the synchronization controller provides bit- level synchronisation of the common time reference.

26. (Currently Amended) A device~~-receiver~~ as claimed in claim 16, arranged to communicate in accordance with the Bluetooth Standard, wherein Link Level synchronization provides the common time reference.

27. (Currently Amended) A device~~-receiver~~ as claimed in claim 16, arranged to communicate in accordance with the Bluetooth Standard, wherein the identification of the real time clock value and the identification of the first instance are transmitted as a Link Manager Message.

28. (Currently Amended) A device~~-receiver~~ as claimed in claim 16, arranged to communicate in accordance with the Bluetooth Standard, wherein the first instance is identified by using a frame/slot number.

29. (Currently Amended) A device~~receiver~~ as claimed in claim 28, wherein the occurrence of the instance within the identified slot/frame is predetermined.

30. (Currently Amended) A device~~receiver~~ as claimed in claim 28, wherein occurrence of the instance within the identified slot/frame is determined by the reception of a message.

31. (Currently Amended) A device~~receiver~~ as claimed in claim 16, further comprising an interface for connection to a Real Time Clock or Real Time application.

32. (Currently Amended) A device~~receiver~~ as claimed in claim 16 arranged for asynchronous transmission of the identification of the real clock value and of the identification of the first instance.

33. (Currently Amended) A media device such as a speaker, microphone, screen, camera or computer comprising a device~~receiver~~ as claimed in claim 16.

Claims 34-37. (Cancelled).

38. (Currently Amended) A method of providing real time clock information from a transmitter device to a receiver device, comprising:

synchronising the transmitter device to a common time reference having distinguishable instances shared in common, with the transmitter and receiver obtaining a real time clock value at an identified instance of the common time reference; and

transmitting an identification of the real time clock value for a first instance and an identification of the first instance.

39. (Currently Amended) A method of receiving real time clock information transmitted from a transmitter device to a receiver device, comprising:

synchronising the receiver device to a common time reference having distinguishable instances shared in common with the transmitter and receiver;

receiving a transmitted identification of a real time clock value and an identification of a first instance of the common time reference; and

determining a real time clock value current at a second instance of the common time reference, corresponding to the received real time clock value corrected in accordance with the time difference between the first and second instances, if any.

40. (Cancelled).

41. (Currently Amended) ~~A device-transmitter for transmitting in a low power frequency hopping network, the low power frequency hopping network comprising the transmitter and at least one receiver, wherein the transmitter is arranged to synchronise to a common time reference having distinguishable instances, the transmitter comprising:~~

~~means~~ a controller for obtaining a clock value at an identified instance of ~~a the~~ common time reference having distinguishable instances, wherein the device is arranged to synchronise to the common time reference; and

~~means~~ a transmitter for transmitting, in a low power frequency hopping network comprising the device and at least one receiver, an identification of a first instance of the common time reference and an identification of a clock value that is valid at the first instance of the common reference.

42. (Previously Presented) ~~A device receiver for receiving in a low power frequency hopping network, the low power frequency hopping network comprising at least the receiver and a transmitter, wherein the receiver is arranged to synchronise to a common time reference having distinguishable instances, the receiver comprising:~~

~~means~~ a receiver for receiving, in a low power frequency hopping network comprising at least the device and a transmitter, a transmitted identification of a clock value and an identification of a first instance of a the common time reference having distinguishable instances, wherein the device is arranged to synchronise to the common time reference; and

~~means~~ a controller for determining a clock value, valid at a second instance of the common time reference, from the received identification of a clock value and the received identification of a first instance.

43. (Currently Amended) A method of providing clock information from a transmitter to a receiver in a low power frequency hopping network, the method comprising:

synchronising the transmitter to a common time reference, having distinguishable instances, shared in common with the transmitter and receiver;

obtaining a clock value at an identified instance of the common time reference;
and

transmitting an identification of a clock value that is valid at a first instance and an indication of the first instance.

44. (Currently Amended) A method of receiving clock information transmitted from a transmitter to a receiver in a low power frequency hopping network, the method comprising:

synchronising the receiver to a common time reference, having distinguishable instances, shared in common with the transmitter and receiver;

receiving a transmitted identification of a clock value that is valid at a first instance and an indication of the first instance; and

determining a clock value, valid at a second instance of the common time reference, corresponding to the received clock value corrected in accordance with the time difference between the first and second instances, if any.

45. (New) A method as claimed in claim 38, further comprising calculating the real time clock value at the first instance by adding the time difference between the first instance and the identified instance to the real time clock value at the identified instance to obtain the real time clock value for the first instance.

46. (New) A method as claimed in claim 38, wherein the first instance is in the past at the moment of transmission.

47. (New) A method as claimed in claim 38, wherein the first instance is in the future at the moment of transmission.

48. (New) A method as claimed in claim 38, wherein the identified instance and the first instance are one and the same.

49. (New) A method as claimed in claim 38, further comprising maintaining the common time reference using a synchronisation controller.

50. (New) A method as claimed in claim 38, wherein the transmitter device is arranged to communicate in accordance with the Bluetooth Standard, wherein Link Level synchronization provides the common time reference.

51. (New) A method as claimed in claim 38, wherein the transmitter device is arranged to communicate in accordance with the Bluetooth Standard, wherein the identification of the real time clock value and the identification of the first instance are transmitted as a Link Manager Message.

52. (New) A method as claimed in claim 38, wherein the transmitter device is arranged to communicate in accordance with the Bluetooth Standard, wherein the instances of the common time reference are synchronous with the frequency hopping of the network.

53. (New) A method as claimed in claim 38, wherein the first instance is identified by using a frame/slot number.

54. (New) A method as claimed in claim 53, wherein the occurrence of the instance within the identified slot/frame is predetermined.

55. (New) A method as claimed in claim 53, wherein occurrence of the instance within the identified slot/frame is determined by the transmission of a message.

56. (New) A method as claimed in claim 38, further comprising connecting to a Real Time Clock or Real Time application using an interface.

57. (New) A method as claimed in claim 38 wherein the transmitter device is arranged for asynchronous transmission of the identification of the real clock value and of the identification of the first instance.

58. (New) A method as claimed in claim 39, wherein the real time clock value is the received value, if necessary, corrected in accordance with the time difference between the first and second instances.

59. (New) A method as claimed in claim 39, wherein the first instance is in the past at the moment of reception.

60. (New) A method as claimed in claim 39, wherein the real time clock value determination is by calculation in which the time difference between the second and first instances is added to the received value of the real time clock.

61. (New) A method as claimed in claim 39, wherein the first instance is in the future at the moment of reception.

62. (New) A method as claimed in claim 39, further comprising determining whether the current real time clock value is the received value when the second instance of the common time reference occurs, the second and first instances being one and the same.

63. (New) A method as claimed in claim 39, further comprising maintaining the common time reference using a synchronisation controller.

64. (New) A method as claimed in claim 63, further comprising identifying access codes preceding the payload of data packets.

65. (New) A method as claimed in claim 64, wherein the synchronisation to the common time reference is updated as each packet is received.

66. (New) A method as claimed in claim 63, wherein the synchronization controller provides bit- level synchronisation of the common time reference.

67. (New) A method as claimed in claim 39, wherein the receiver device is arranged to communicate in accordance with the Bluetooth Standard, wherein Link Level synchronization provides the common time reference.

68. (New) A method as claimed in claim 39, wherein the receiver device is arranged to communicate in accordance with the Bluetooth Standard, wherein the identification of the real time clock value and the identification of the first instance are transmitted as a Link Manager Message.

69. (New) A method as claimed in claim 39, wherein the receiver device is arranged to communicate in accordance with the Bluetooth Standard, wherein the first instance is identified by using a frame/slot number.

70. (New) A method as claimed in claim 69, wherein the occurrence of the instance within the identified slot/frame is predetermined.

71. (New) A method as claimed in claim 69, wherein occurrence of the instance within the identified slot/frame is determined by the reception of a message.

72. (New) A method as claimed in claim 39, further comprising connecting to a Real Time Clock or Real Time application using an interface.

73. (New) A method as claimed in claim 39 wherein the receiver device is arranged for asynchronous transmission of the identification of the real clock value and of the identification of the first instance.